



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5 CHICAGO REGIONAL LABORATORY  
536 SOUTH CLARK STREET  
CHICAGO, ILLINOIS 60605



**Date:** 10/24/2017

**Subject:** Review of Region 5 Data for U.S. Steel - Minntac Tailings Basin Area Facility

**To:** Water Division, WECA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604

**From:** Colin Breslin, Chemist  
US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation* and the U.S. EPA Region 5 RMD QMP, CRL performs data verification on all the data generated internally. CRL does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

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Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

**Attached are Results for: U.S. Steel - Minntac Tailings Basin Area Facility**

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Data Coordinator and Date Transmitted

**Analyses included in this report:**

Hg Total CVAA



Environmental Protection Agency Region 5  
**Chicago Regional Laboratory**

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Project: U.S. Steel - Minntac Tailings Basin Area Facility  
Project Number: 02DM17  
Project Manager: Dean Maraldo

**Reported:**  
Oct-24-17 13:25

## Analysis Case Narrative

### General Information

Water samples for the analysis of total mercury by cold vapor atomic absorption (Hg Total CVAA) were received at the Chicago Regional Laboratory (CRL). Dates of receipt are included in the body of this report. The samples met the pH preservation requirement upon receipt. The samples were analyzed within the 28 day hold time. The designated analyst, Colin Breslin, can be reached at 312-886-2912.

The samples were prepared and analyzed according to CRL SOP AIG044E Version #4 (based on EPA 245.1/SW-846: 7470A).

**Note: supporting data are archived with work order 1709001.**

### Sample Analysis and Results

The data reported herein meets the requirements referenced in the SOP used for analysis and any laboratory specifications stated in the U.S. Steel – Minntac Basin Area Facility County Road 102 Mountain Iron, MN 55768 Quality Assurance Project Plan (QAPP), August 2017. The QAPP is saved on the CRL share drive with file name: MN0057207\_Minntac\_QAPPSAMP\_20170831.pdf.

### Quality Control

All Quality Control (QC) audits were within CRL limits for the requested analytes or did not result in qualification of the data.



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**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01	1709003-01	Water	Sep-12-17 09:57	Sep-14-17 13:26
S02	1709003-02	Water	Sep-12-17 10:23	Sep-14-17 13:26
S03	1709003-03	Water	Sep-12-17 10:50	Sep-14-17 13:26
S04	1709003-04	Water	Sep-12-17 11:08	Sep-14-17 13:26
D05	1709003-05	Water	Sep-12-17 11:08	Sep-14-17 13:26
S06	1709003-06	Water	Sep-12-17 11:30	Sep-14-17 13:26
S07	1709003-07	Water	Sep-12-17 11:51	Sep-14-17 13:26
S08	1709003-08	Water	Sep-12-17 14:03	Sep-14-17 13:26
S09	1709003-09	Water	Sep-12-17 15:00	Sep-14-17 13:26
S10	1709003-10	Water	Sep-12-17 15:15	Sep-14-17 13:26
S11	1709003-11	Water	Sep-13-17 09:44	Sep-14-17 13:26
S12	1709003-12	Water	Sep-13-17 09:49	Sep-14-17 13:26
S13	1709003-13	Water	Sep-13-17 09:55	Sep-14-17 13:26
S14	1709003-14	Water	Sep-13-17 10:23	Sep-14-17 13:26
S15	1709003-15	Water	Sep-13-17 11:10	Sep-14-17 13:26
R16	1709003-16	Water	Sep-13-17 12:52	Sep-14-17 13:26



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**Mercury by Cold Vapor, EPA Method 245.1/7470A (modified)**  
**US EPA Region 5 Chicago Regional Laboratory**

**S01 (1709003-01) Matrix: Water Sampled: Sep-12-17 09:57 Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S02 (1709003-02) Matrix: Water Sampled: Sep-12-17 10:23 Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S03 (1709003-03) Matrix: Water Sampled: Sep-12-17 10:50 Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S04 (1709003-04) Matrix: Water Sampled: Sep-12-17 11:08 Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**D05 (1709003-05) Matrix: Water Sampled: Sep-12-17 11:08 Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S06 (1709003-06) Matrix: Water Sampled: Sep-12-17 11:30 Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S07 (1709003-07) Matrix: Water Sampled: Sep-12-17 11:51 Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S08 (1709003-08) Matrix: Water Sampled: Sep-12-17 14:03 Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
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Project Number: 02DM17  
Project Manager: Dean Maraldo

**Reported:**  
Oct-24-17 13:25

**Mercury by Cold Vapor, EPA Method 245.1/7470A (modified)**

**US EPA Region 5 Chicago Regional Laboratory**

**S08 (1709003-08)**

**Matrix: Water**

**Sampled: Sep-12-17 14:03**

**Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S09 (1709003-09)**

**Matrix: Water**

**Sampled: Sep-12-17 15:00**

**Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S10 (1709003-10)**

**Matrix: Water**

**Sampled: Sep-12-17 15:15**

**Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S11 (1709003-11)**

**Matrix: Water**

**Sampled: Sep-13-17 09:44**

**Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S12 (1709003-12)**

**Matrix: Water**

**Sampled: Sep-13-17 09:49**

**Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S13 (1709003-13)**

**Matrix: Water**

**Sampled: Sep-13-17 09:55**

**Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S14 (1709003-14)**

**Matrix: Water**

**Sampled: Sep-13-17 10:23**

**Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**S15 (1709003-15)**

**Matrix: Water**

**Sampled: Sep-13-17 11:10**

**Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Mercury	U			0.5	ug/L	1	B17I038	Sep-27-17	Sep-27-17

**R16 (1709003-16)**

**Matrix: Water**

**Sampled: Sep-13-17 12:52**

**Received: Sep-14-17 13:26**



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**R16 (1709003-16)**

**Matrix: Water**

**Sampled: Sep-13-17 12:52**

**Received: Sep-14-17 13:26**

Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
<b>Mercury</b>	<b>U</b>			0.5	ug/L	1	B171038	Sep-27-17	Sep-27-17



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**Notes and Definitions**

U Not Detected  
NR Not Reported  
Q QC limit Exceeded